King County Regional Infiltration/Inflow Control Program
MWPAAC/Local Agency Workshop #8 Summary
Tuesday, April 30, 2002

Background

The King County regional wastewater treatment system includes wastewater interceptors, pump stations, treatment plants and outfalls. Thirty-four politically and administratively independent Local Agencies discharge wastewater from their systems to King County's regional wastewater system. Increased wastewater flows within this vast service area have used significant portions of, and in some cases have exceeded, the capacity of existing County facilities.

The Regional Wastewater Services Plan (RWSP) directs the County and the Local Agencies to take action on several components of the wastewater system, including new treatment, combined sewer overflows, water reuse, and infiltration and inflow (I/I). To comply with the portion of the RWSP that requires I/I to be addressed, the County in conjunction with the Local Agencies began the Regional I/I Control Program. A cornerstone of this Program is active involvement of Local Agencies in a consensus-based process that relies on a coordinated, collaborative approach to develop components of the Program. The Program includes extensive flow monitoring and modeling; I/I removal pilot projects; development of standards, procedures, and policies; assessing cost effectiveness of I/I reduction; and developing a Regional I/I Control Program for approval and adoption.

To educate and involve the Local Agencies in these decisions and to resolve issues related to I/I, 14 participatory workshops have been scheduled at key points during the I/I Control Program. To date, eight workshops have been held to introduce participants to the issues; address technical, financial, and cost sharing issues; determine criteria for pilot basin/project selection; describe modeling of wastewater flows, and identify key issues related to standards, procedures and policies for I/I control projects.

Local Agency Workshop #8 was held on Tuesday, April 30, 2002 at the Best Western Bellevue Inn in Bellevue, Washington.

Workshop Purpose

The objective of I/I Control Program Workshop #8 was to review the pilot basin/project selection criteria and proposed pilot basins/projects, and to reach agreement on a maximum of 10 pilot projects/basins, not to exceed a value of $9 million.

Three geographically based "regional" meetings were held in late March to narrow the list of candidate pilot basins/projects from 66 down to 30 (or fewer) to facilitate the selection of the final 10. These meetings produced a list of 29 candidates; these 29 were further pared to 23 candidates when Bellevue and Ronald each withdrew one candidate, Soos Creek withdrew two, and three agencies (Coal Creek, Northshore, and Val Vue) agreed to combine individual candidate pilots into one "blanket" project.

Local Agencies were encouraged to provide additional comments and input at this workshop to guide the selection of the ultimate I/I Control Program pilot basins/projects from the list of 23 candidates. Also featured was an update on various I/I Control Program elements currently underway.

Welcome & Introductions

Don Theiler, Manager, King County Wastewater Treatment Division & Dave Christensen, City of Renton, MWPAAC Chair

Mr. Theiler, King County's Wastewater Treatment Division Manager, welcomed attendees and acknowledged the participation of Local Agencies in initiating and commenting on the draft I/I Standards, Procedures and Policies. Mr. Theiler reiterated that King County intends to continue its support for the I/I Control Program and the inclusion of Local Agency input into the Program.

Dave Christensen, Chair of MWPAAC, then updated attendees on the development of I/I control project Standards, Procedures and Policies ("the standards"). He explained that the MWPAAC RWSP Subcommittee had been meeting approximately every two weeks since early February and so far had held excellent discussion on the standards. He added that the Subcommittee had completed the initial review of the standards to govern public facilities and was moving into consideration of policies to govern I/I control projects. Mr. Christensen emphasized that the standards were being developed using a cooperative approach where all impacted agencies in the region could participate.

I/I Control Program Status & Schedule

Dan Sturgill, Regional I/I Control Program Manager, King County

Mr. Sturgill, I/I Control Program Manager, gave a brief update on the I/I Control Program status and schedule. He began with a geographical overview of the regional wastewater system, including the combined system, separated system, and future sewered area. Mr. Sturgill continued with a statistical overview of the Regional I/I Control Program, citing the following:

- There are 34 Local Component Agencies in the I/I Control Program, primarily cities and sewer districts
- 75% of peak flows in the King County system are from I/I
- 95% of the I/I in the region stems from the systems of the 34 Local Agencies
- 50% of that I/I comes from private property

Mr. Sturgill also walked the group through a diagram showing a step-by-step view of I/I Control Program elements currently active or imminent:

- Rain Gauge Data (recently finalized)
- Flow Monitoring Data (recently finalized)
- Mini-Basin I/I Flow Data (under construction)
- Hydraulic Model Calibrations (later this year, will lead to flow projections)
- 20-Year Design Flow Projections
- 20-Year I/I Projections

- Alternatives/Options for I/I Control
- Pilot Project Results
- Regional I/I Control Plan

Technical Perspective on Pilot Projects/Basins

Marcos Lopez, Earth Tech Team

After an agenda review by Bob Wheeler, Mr. Lopez described the difference between a pilot basin and a pilot project both verbally and graphically. Using another graphic showing the standard property line boundary, he reminded attendees of the importance of addressing I/I on private property. Mr. Lopez then displayed the sources and types of I/I and explained the difference between base and rapid infiltration. Lastly, he reported the magnitude of I/I over the recent rainy season; 670 of the 700 basins monitored exceeded the allotted 1,100 gallons per acre per day (gpad) in every one of 10 storms during the monitoring period.

Pilot Project Determination

Moderator: Bob Wheeler, Earth Tech Team

Mr. Wheeler reviewed the pilot basin/project selection process to date, including approval by the Regional Water Quality Committee, Utilities Committee and King County Council of the list of 29 candidates that emerged from the regional selection meetings in March. He reminded attendees how that list of 29 was trimmed to 23 (by the withdrawal of four pilot candidates by the sponsoring Agency and the voluntary combining of three others into one). Mr. Wheeler emphasized that the 10 basins/projects chosen at the Workshop would have to satisfy the selection criteria chosen by Local Agencies at Workshop #2.

After showing a list of the 23 candidate pilots, Mr. Wheeler briefly reviewed the selection process that would be used:

- Presentations by pilot sponsors
- Vote selection
- Report out on pilot candidate selection
- Selection and agreement on top candidates
- Agreement on a maximum of 10 pilots
- Possible selection of a few alternates

Mr. Wheeler then reviewed each of the 10 pilot basin/project selection criteria before turning the microphone over to individual representatives of Local Agencies for presentation of pilot candidates. These criteria were:

- Geographic Balance
- Meet Constructability Time Frames For the I/I Program, Including Permitting Needs
- Consider Differing Geologic Conditions, Do No Harm
- Provide Environmental/Public Health Benefits
- Address Private Sewer Issues
- Provide a Regional Impact
- Useful as a Model for Future I/I Projects

- Demonstrate a Variety of Proven Technologies & Rehabilitation Techniques
- Representative of Typical I/I Problems in the Region
- The Wildcard Criteria

Presentations on Candidate Pilot Basins/Projects

1. Blanket Project: Northshore/Coal Creek/Val Vue (CCR002, NUD038, VAL019)
Presenters: Steve Moye (Coal Creek), Matt Everett (Northshore), Dana Dick (Val Vue)
Flow Data: Peak Flow 4,202 gpad (CCR002); 6,025 gpad (NUD038); 4,307 gpad (VAL019)

Question:
- Are Northshore and Coal Creek new systems, like Val Vue?

Response:
- Relatively new, 1967-69 precast manholes.

Question:
- Does this project address the private sewer issues?

Response:
- No, as a manhole rehabilitation project it involves public sewers.

- **Auburn Academy Project (ABN002)**

Presenter: Jeff Roscoe
Flow Data: Peak flow 10,030 gpad; peak to average ratio of 5.3

No Questions

- **Bellevue (BEL077)**

Presenter: Randy Thompson
Flow Data: Peak flow 7,342 gpad; peak to average ratio of 9.4

No Questions

- **Black Diamond (BLA001)**

Presenter: Jason Paulsen
Flow Data: Peak flow 3,311 gpad ; peak to average ratio of 3.8

No Questions

5. Bothell (BOT004)
Presenter: Mac McDonald
Flow Data: Peak flow of 5,938 gpad; peak to average ratio of 8.3

No Questions

6. Bothell #2 (BOT011)
Presenter: Mac McDonald
Flow Data: Peak flow of 2,947 gpad; peak to average ratio of 4.1

No Questions

7. Brier (BRR004)
Presenter: Dick Russell
Flow Data: Peak flow of 6,338 gpad; peak to average ratio of 11.2

No Questions

- **Brier (BRR006)**

Presenter: Dick Russell
Flow Data: Peak flow of 2,408 gpad; peak to average ratio of 4.8

No Questions

9. Bryn Mawr/Lakeridge (BLS002)
Presenter: Cheryl Scheuerman
Flow Data: Peak flow of 27,167 gpad; peak to average ratio of 16.6

Question:
- What is the cost of the side sewer estimates you got in 1998?

Response:
- First estimate was $1.3 million. Second estimate, after the economy began struggling, was $900K

10. Issaquah (ISS014)
Presenter: Kerry Ritland
Flow Data: Peak flow of 3,572 gpad; peak to average ratio of 7.6

Question:
- How do you propose to rehab the lower five feet of side sewer?

Response:
- In situ: our engineer is working on this.

Question:
- Has any of the line been videoed?

Response:
- We plan to video it this year.

11. Kent (KNT014)
Presenter: Dave Brock
Flow Data: Peak flow of 7,709 gpad; peak to average ratio of 9.9

Question:

- Did you say 1,900 feet of sewer?

Response:

- It should be 19,000.

Question:

- What is the City's jurisdiction on side sewer?

Response:

- We believe the homeowner's responsibility starts at the main line.

12. Kirkland (KRK006)

Presenter: Greg Kremer

Flow Data: Peak flow of 6,745 gpad; peak to average ratio of 12.9

Question:

- If 75% of the basin is composed of six inch sewer lines, wouldn't those pipes need to be up-sized?

Response:

- The hydraulics seem OK, so I don't think that will be necessary.

13. Kirkland (KRK011)

Presenter: Greg Kremer

Flow Data: Peak flow of 7,289 gpad; peak to average ratio of 3.4

Presenter's note: Kirkland prefers this project to the previous one

Question:

- If your project is selected, do you have historical records on pump station data?

Response:

- The pump station was eliminated in '87-'88, so I don't believe there are any records available.

Question:

- Do you use lake water to flush the sewer lines?

Response:

- No.

14. Lake Forest Park (RON041)

Presenter: Bill Reynolds

Flow Data: Peak flow of 7,962 gpad; peak to average ratio of 14.0

Question:

- Will the City take care of asphalting?

Response:

- Yes, that is our plan.

15. Mercer Island (MRC012)
Presenter: Patrick Yamashita
Flow Data: Peak flow of 13,719 gpad; peak to average ratio of 21.4

No Questions

16. Mercer Island (MRPS24)
Presenter: Patrick Yamashita
Flow Data: Peak flow of 2,797 gpad; peak to average ratio of 9.7

Question:
- Which candidate would Mercer Island consider more critical?

Response:
- From a regional perspective, probably the first project, MRC012.

17. Northshore (NUD024)
Presenter: Matt Everett
Flow Data: Peak flow of 2,860 gpad; peak to average ratio of 5.4
Presenter's note: Northshore prefers the blanket project to this one.

No Questions

18. Pacific (PAC005)
Presenter: John Walsh
Flow Data: Peak flow of 4,320 gpad; peak to average ratio of 3.0

No Questions

19. Redmond (RDM009)
Presenter: Paul Tissell
Flow Data: Peak flow of 5,250 gpad; peak to average ratio of 4.3

No Questions

20. Renton (RNT021)
Presenter: Dave Christensen
Flow Data: Peak flow of 4,355 gpad; peak to average ratio of 5.2

No Questions

21. Ronald (RON002)
Presenter: Scott Christensen
Flow Data: Peak flow of 11,279 gpad; peak to average ratio of 11.1

No Questions

22. Ronald (RON032)
Presenter: Scott Christensen
Flow Data: Peak flow of 7,303 gpad; peak to average ratio of 17.5
Presenter's Note: District prefers 002.

No Questions

23. Val Vue (VAL016)
Presenter: Dana Dick
Flow Data: Peak flow of 3,726 gpad; peak to average ratio of 4.6

No Questions

Vote to Rank Pilot Basins/Projects & Discussion/Decision on Ranking
Moderator: Bob Wheeler, Earth Tech Team

Following the final presentation, Mr. Wheeler explained the voting procedure, which would use envelopes with specially marked tickets as ballots. Each MWPAAC representative received an envelope containing 10 voting tickets. Three of these votes had to be cast for projects in the north, three for projects in the east, three for projects in the south, and one could be used in any of the three regions. A north, south, or east vote could be used for the combined "blanket" project since the three Agencies sponsoring that project represent the three geographic regions of the I/I Control Program. Each voting representative would be allowed only one vote per candidate.

When Mr. Wheeler had made sure that everyone fully understood the voting process, he read the name of each agency qualified to vote. This list, included here organized by region and listing each Agency's voting representative, consisted of the 34 Local Component Agencies of the regional wastewater system, plus four MWPAAC member agencies.

NORTH	**EAST**
Brier, City of – Dick Russell	Redmond, City of – Paul Tissell
Lake Forest Park, City of – Frank Zenk	Northeast Sammamish Water & Sewer District – *not present*
Woodway, Town of – *not present*	Sammamish Plateau Water & Sewer District – *not present*
Highlands Sewer District – *not present*	Issaquah, City of – Kerry Ritland
Ronald Wastewater District – Phil Montgomery	Lake Sammamish State Park – *not present*
Alderwood Water & Wastewater District – Larry Jones	Bellevue, City of – Randy Thompson
Bothell, City of – Bob Bandarra	Coal Creek Utility District – Tom Peadon
Northshore Utility District – Matt Everett	Shorewood LLC Apartments– *not present*
Woodinville Water District – Tim Mattson	Mercer Island, City of – Patrick Yamashita
Cross Valley Water District – Skip Schott	Kirkland, City of – Greg Kremer

SOUTH	**WEST**
Renton, City of – Dave Christensen	Seattle, City of (excludes all CSO areas) – Bette Robbins
Soos Creek Water & Sewer District – Ken Vandenburgh	
Cedar River Water & Sewer District – Kirk Hunkeler	
Black Diamond, City of – Jason Paulsen	
Auburn, City of – Jeff Roscoe	
Kent, City of – Dave Brock	**MWPAAC**
Algona, City of – *not present*	Lakehaven Utility District – Don Perry
Pacific. City of – John Walsh	Southwest Suburban Sewer District – William Tracy
Tukwila, City of – Mike Cusick	Vashon Sewer District – *not present*
Bryn Mawr-Lake Ridge Water & Sewer District – Don Sorenson	Water District 125 – *not present*
Val Vue Sewer District – Dana Dick	Midway Sewer District – *not present*

The voting representatives cast their ballots and the vote totals were projected for the group to see. These vote totals are listed on the next page:

CCR002/NUD038/VAL019 ……....26 Votes
BLS006 ……24 Votes
RON002 ……24 Votes
MRC012 ……20 Votes
BRR004 ……19 Votes
KRK011 ……17 Votes
RDM009 ……17 Votes
RON041 (LFP) ……16 Votes
ABN002 ……15 Votes
KNT014 ……13 Votes
BEL077 ……10 Votes
PAC005 …… 9 Votes
RNT021 …… 9 Votes
ISS014 …… 9 Votes
VAL016 …… 8 Votes
BLA001 …… 7 Votes
KRK006 …… 7 Votes
BOT004 …… 6 Votes

BOT011 ……. 5 Votes
MRPS24 ……. 4 Votes
NUD024 ……. 4 Votes
RON032 ……. 4 Votes
BRR006 ……. 2 Votes

Since the top 10 projects were clearly ranked above the remainder, Mr. Wheeler asked the MWPAAC voting representatives to consider the 10 pilot selection criteria in turn to ensure that each would be met via the top 10 candidates. The voting representatives present agreed by consensus decision that all 10 criteria would be met with the following list, and approved the list with a final consensus agreement:

CCR002/NUD038/VAL019 ……....26 Votes
BLS006 ……24 Votes
RON002 ……24 Votes
MRC012 ……20 Votes
BRR004 ……19 Votes
KRK011 ……17 Votes
RDM009 ……17 Votes
RON041 (LFP) ……16 Votes
ABN002 ……15 Votes
KNT014 ……13 Votes

Mr. Wheeler then asked the Local Agency representatives if they wanted to designate one or more alternates in the event that one of the above 10 could not be executed. There was agreement that this was needed. A suggestion was made that if a basin/project was withdrawn, then the alternate that took its place should be from the same geographical region. The group agreed on this policy by consensus of MWPAAC members, thus determining that the first alternate from the north would be BOT004 and the second BOT011; the first alternate from the east would be BEL077 and the second ISS014. Since the south region placed two projects at nine votes apiece, some discussion was needed to determine which would be the first alternate. It was decided by a vote of 12 to 10 to select RNT021 as the first alternate from the south region and PAC005 as the second alternate from the south.

Wrap Up—What Happens Next?

Marcos Lopez, Earth Tech Team

Mr. Lopez reviewed the time frame for the pilot basins/projects that were selected, as follows:

Pilot Basin Sewer System Evaluation Surveys	May 2002
Pilot Projects Identified from SSES	September 2002
Workshop #9 (SSES Results & Proposed Rehabilitation Techniques)	October 22, 2002
Start Pilot Project Design	October 2002
Construction Contract Advertisement	March 2003
Start Pilot Project Construction	May 2003
Start Post-Rehabilitation Flow Monitoring	November 2003

Question:

- Will the results of this meeting be on the County website?

Response:

- Yes, and we will e-mail the results to you.

Wrap-up & Next Steps

Marcos Lopez, Earth Tech Team

Mr. Lopez thanked the Local Agency and MWPAAC representatives for their hard work this day and closed the workshop with a reminder that I/I Control Program Workshop #9 is to be held on October 22, 2002.